



Launch Mission Execution Forecast

Mission: Falcon 9 GPS III-5

Issued: 15 Jun 2021 / 0830L (1230Z)

Valid: 17 Jun 2021 / 1209 – 1225L (1609 – 1625Z)



Forecast Discussion: The very active pattern will continue for the next few days due to troughing aloft, southwesterly low level flow, and deep moisture over the Florida peninsula. The offshore winds will pin the east coast sea breeze near the coast, and favor west-to-east moving storms that increase in strength as they reach the Spaceport during the afternoon and early evening hours. By Thursday, a front will be stalled out to our north, and models are indicating that the mid-level energy will finally push south of the Spaceport, bringing in drier mid-level air and lowering the coverage and strength of the diurnal thunderstorm activity. However, given the continued southwest flow and moderate instability, isolated showers and thunderstorms cannot be ruled out as we head into the launch window just after noon. Because of this, the primary concerns are the Cumulus Cloud Rule and the Surface Electric Fields Rule.

There remains some forecast uncertainty for Friday, due to a tropical low likely developing and pushing northwards in the western Gulf of Mexico. While it will not directly affect our weather, a few models are indicating it will pull the mid-level energy and moisture back northwards towards Central Florida. Diurnal shower and thunderstorm activity still look marginally lower on Friday, but the mid-level moisture may introduce a thick cloud layer concern. Thus, the primary concerns for Friday are the Cumulus Cloud Rule and the Thick Cloud Layers Rule.

Launch Day	Probability of Violating Weather Constraints					
	40%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule				
	Weather Conditions					Additional Risk Criteria
	Weather/Visibility: Iso'd Showers / 7 mi.	Clouds				Upper-Level Wind Shear: Low
	Temp/Humidity: 81°F / 68%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
24-Hour Delay	Liftoff Winds (200'): 220° 5 - 10 mph	Cumulus	Scattered	3,000	15,000	Solar Activity: Low
	Probability of Violating Weather Constraints					
	30%	Primary Concerns: Cumulus Cloud Rule, Thick Cloud Layers Rule				
	Weather Conditions					Additional Risk Criteria
	Weather/Visibility: Iso'd Showers / 7 mi.	Clouds				Upper-Level Wind Shear: Low
Temp/Humidity: 81°F / 70%		Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200'): VRB 5 mph		Cumulus	Scattered	3,000	12,000	Solar Activity: Low
		Altostratus	Broken	18,000	22,000	
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.						
Next Forecast Will Be Issued		16 Jun 2021				